

IN THE CLAIMS

Please amend the claims to read as follows:

LISTING OF CLAIMS

1-18. (Canceled).

19. (New) An OFDM transmission apparatus comprising:

an adder that adds symbols for synchronization pull-in to a valid symbol, said symbols for synchronization pull-in comprising a synchronization symbol and a phase reference symbol that is identical to the synchronization symbol; and

an inserter that inserts a correlation value suppression signal immediately after the symbols for synchronization pull-in.

20. (New) An OFDM receiving apparatus comprising:

a delayer that delays a reception signal comprising symbols for synchronization pull-in and a correlation value suppression signal, disposed immediately after said synchronization pull-in symbols, by a symbol unit, said symbols for synchronization pull-in comprising a synchronization symbol and a phase reference symbol that is identical to the synchronization symbol;

a correlation value calculator that calculates a correlation value between the reception signal as received and the reception signal delayed by the symbol unit; and

a symbol synchronizer that establishes symbol synchronization by carrying out a threshold determination of the calculated correlation value.

21. (New) An OFDM receiving apparatus comprising:

an IFFT-processor that performs IFFT-processing of a phase reference symbol included in a reception signal, said reception signal comprising symbols for synchronization pull-in including a synchronization symbol and the phase reference symbol that is identical to the synchronization symbol;

a correlation value calculator that calculates a correlation value of the reception signal, as received, and the IFFT-processed phase reference symbol; and

a symbol synchronizer that establishes symbol synchronization by carrying out a threshold determination of the calculated correlation value.

22. (New) The OFDM receiving apparatus according to claim 21, wherein the correlation value calculator further comprises a hard decider that carries out a hard decision of the IFFT-processed phase reference symbol and calculates the correlation value between the reception signal as received and

the phase reference symbol subjected to the IFFT-processing and hard decision.

23. (New) An OFDM transmission apparatus comprising:

an adder that adds symbols for synchronization pull-in to a valid symbol, said symbols for synchronization pull-in comprising a synchronization symbol of a waveform repeating in a $1/n$ cycle; and

an inserter that inserts a correlation value suppression signal immediately after the symbols for synchronization pull-in.

24. (New) The OFDM transmission apparatus according to one of claim 19 and claim 20, wherein the correlation value suppression signal occupies a shorter interval than a cycle of the phase reference symbol.

25. (New) The OFDM transmission apparatus according to claim 23, wherein the correlation value suppression signal occupies a shorter interval than a cycle of the synchronization symbol.

26. (New) An OFDM receiving apparatus comprising:

a correlation value calculator that calculates a correlation value of a reception signal from symbols for synchronization pull-in and a correlation value suppression signal disposed immediately after the symbols for synchronization pull-in in the reception signal;

a detector that detects a level of the reception signal; and
a symbol synchronizer that establishes symbol synchronization based on the level of the reception signal and a result of a threshold determination of the correlation value.

27. (New) An OFDM transmission apparatus comprising:

an adder that adds a symbol for synchronization pull-in to a valid symbol;

an inserter that inserts a correlation value suppression signal immediately after the symbol for synchronization pull-in;
and

an interval changer that adaptively changes an interval that the correlation value suppression signal occupies, according to a communication environment.

28. (New) An OFDM transmission apparatus comprising:

an adder that adds a symbol for synchronization pull-in to a valid symbol;

an inserter that inserts a correlation value suppression signal immediately after the symbol for synchronization pull-in; and

a level changer that changes a level of the correlation value suppression signal according to a communication environment.

29. (New) The OFDM transmission apparatus according to claim 28, wherein the level changer changes the level of the correlation value suppression signal based on an average value of quality information of the reception signal.

30. (New) An OFDM transmission apparatus comprising:
an adder that adds a symbol for synchronization pull-in to a valid symbol;

an inserter for inserting a correlation value suppression signal immediately after the symbol for synchronization pull-in, said correlation value suppression signal selected from a group comprising a null symbol, a null signal, an inverted symbol, which is a symbol for synchronization pull-in with an inverted polarity, and an inverted signal, which is a symbol used for synchronization pull-in with an inverted polarity.

31. (New) An OFDM communication method comprising:

adding symbols for synchronization pull-in to a valid symbol, said symbols for synchronization pull-in comprising a synchronization symbol and a phase reference symbol that is identical to the synchronization symbol;

inserting a correlation value suppression signal immediately after the symbols for synchronization pull-in;

delaying a reception signal by a symbol unit;

calculating a correlation value of the reception signal, as received, and the delayed reception signal; and

establishing symbol synchronization by carrying out a threshold determination of the calculated correlation value.